

#### 106-2.1

**LUMINAIRES** Apron light luminaire shall be **480V**, 1000W Metal Halide, **LSI Hilton #HR-FRP-1000-MHR-CT-480-BRZ**, or equivalent, suitable for mounting on **the 70' pole**. Color shall be Dark Bronze. ~~Provide Airport Louver.~~ Provide **in-line brackets, slip fitters**, hardware and accessories as required to provide a complete luminaire installation. Provide 1000W MH lamp with luminaire. Install #12 THWN conductors from luminaire to breakaway fuseholder at pole base handhole, Bussman HEY-AA-DRLC-A, or equivalent. Install two **5A**, slow-blow fuses, or as required by luminaire manufacturer. The Contractor shall bond the pole ground lug to the pole ground rod with a #6 ground wire. Contractor shall connect incoming circuit ground wire and luminaire ground wire to pole ground lug.

**BALLASTS** Ballasts for Apron Lighting shall be U.L. Listed and operate at a voltage of **480VAC**, 1 phase, 60Hz and be capable of starting the lamps indicated herein down to a temperature of -20°F. Ballasts shall be of the high power factor constant wattage auto-transformer type (CWA). They shall be an integral but easily replaceable part of the luminaire.

#### 106-2.2

Light poles shall be as noted in Pole Schedule on plans. All poles shall include vibration dampers. Finish shall be dark bronze. **Poles shall be certified for 90 MPH wind speed with 1.3 gust factor and a total luminaire EPA of 16.7 sq. ft.**

Anchor bolts shall also be supplied by the pole manufacturer. Anchor bolts shall be fabricated from a commercial quality hot rolled carbon steel bar that meets or exceeds a minimum yield strength of 50,000 psi. Four properly sized anchor bolts, each furnished with two regular hex nuts and washers shall be furnished and shipped with the poles. Anchor bolts shall have the exposed threaded end galvanized a minimum of 7.5 inches, or more, as recommended by pole manufacturer. Minimum anchor bolt length **embedment in concrete foundation** shall be 72 inches, or more, as recommended by pole manufacturer.

#### 106-2.5

**IN-LINE FUSE.** In-line fuse holders shall be provided at handhole at pole base for each luminaire. Fuse holders shall be break-away type, Buss HEY-AA-DRLC-A, or equivalent. Provide **5A** fuses or as required by luminaire manufacturer. Contractor shall verify fuses prior to submittal.

#### 106-4.1

The quantity of Apron Light Fixtures to be measured for payment shall be the number of light fixtures with two ~~or three~~ luminaires, with all options and accessories, including luminaires, splices and wiring inside light poles from in-line fuses to luminaires, any vertical quantity of **480V** power wiring and conduit at light fixtures, in-line fusing and lightning arrester, pole, vibration damper, anchor bolts, insect screening, pole ground rod and pole ground wiring, and concrete foundation, installed in place, tested and ready for use, including all labor, material, equipment and incidentals. **This measurement shall also include GFCI receptacle, obstruction lights and photocell, and 480V pin & sleeve receptacle.**

#### 106-5.2

Payment will be made under:

Item AR106502 APRON LIGHT POLE W/DOUBLE FIXTURE – per each

~~Item AR106503 APRON LIGHT POLE W/TRIPLE FIXTURE – per each~~

Item AR106905 REMOVE LIGHT POLE & FIXTURE – per each

#### 108-1.1

**HDPE** conduit installed via directional bore and PVC conduit in trench are specified elsewhere in Item 110 - Installation of Airport Underground Electrical Duct.

#### 108-2.2

##### POWER CABLE IN CONDUIT

The power cable ~~for the Apron Lights~~ shall be ~~Two #6 USE, One #10 Ground~~. Cable shall be 600 Volt rated. Cable shall comply with Underwriters Laboratories Standard U.L. 44 (for Type RHW-2) and U.L. 854 (for Type USE-2) and shall pass the IEEE 383, 70,000 BTU/hr and VW-1 Flame Tests. Cable insulation shall be abrasion, moisture, heat and sunlight resistant black cross-linked polyethylene (XLP). Cables shall be rated for use at 90°C in both wet and dry locations and be suitable for use in conduit, underground service entrance cable and direct burial applications.

#### 108-4.3 POWER CABLE IN CONDUIT

The footage of ~~Two #6 USE, One #10 Ground~~ power cable for the Apron Lights, **receptacles, obstruction lights, and pin & sleeve receptacle**, installed in HDPE conduit ~~and PVC conduit~~, shall be the horizontal distance between Apron Light

Fixtures and polymer concrete handhole, installed in HDPE conduit, sized as noted on plans, and from Light Fixture #3 to handhole, installed in 1" PVC, as noted on the plans.

110-1.1

- HDPE Conduit Installed Via Directional Bore

125-2.14      TAXIWAY LIGHTS

The L-861T(L) LED ~~and L-852D(L) LED~~ fixtures shall conform to the requirements of FAA Advisory Circular 150/5345-46B "Specification for Runway and Taxiway Light Fixtures" and "FAA Engineering Brief No. 67 "Light Sources other than Incandescent and Xenon for Airport Lighting and Obstruction Lighting Fixtures."

The L-861T(L) LED fixture shall be ETL certified. The L-861T(L) LED fixtures shall be the "ETES" fixture as manufactured by ADB or approved equal ~~and L-852D(L) LED fixtures shall be the "ITCF" fixture as manufactured by ADB or approved equal~~. The LED light fixture shall be supplied with a thermostatically controlled heating element suitable for northern climate as recommended by FAA. The fixture shall use robust, solid-state internal devices that withstand damage if the fixture is knocked over.

125-5.1

Payment will be made at the contract unit price for each complete light and sign furnished and installed in place or removed by the Contractor and accepted by the Engineer. This price shall be full compensation for furnishing all materials and for all preparation, removals, modifications, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item AR125415 – MITL – Base Mounted – per each

**Item AR125417 – MITL – Base Mounted in Shoulder – per each**

~~Item AR125416 – MITL – Base Mounted in Shoulder – per each~~

Item AR125902 – Remove Base Mounted Light – per each